IN THE CLAIMS

1. (currently amended) A method for roughening a copper surface, comprising the step of subjecting the copper surface to etching using a liquid etchant so that the copper surface is provided with acicular projections;
said liquid etchant including a main component containing at least one acid selected from the group consisting of oxo acids represented by one of the following chemical formulae:

$$XO_m(OH)_n \text{ and } H_nXO_{(m+n)}$$

wherein X is a central atom, m is an integer of 0 or more, and n is an integer of 1 or more and derivatives thereof and at least one compound selected from the group consisting of peroxides and derivatives thereof; and an auxiliary component containing at least one tetrazole and a second azole.

2. (original) A method for roughening a copper surface as defined in claim 1, wherein said auxiliary component contains at least one halide selected from the group consisting of chlorides, fluorides and bromides.

3. (original) A method for roughening a copper surface as defined in claim 2, wherein said at least one halide is a chloride which is contained in the liquid etchant so that a chlorine ion concentration is 50 mg/l or less.

4. (original) A method for roughening a copper surface as defined in claim 2, wherein said at least one halide is a fluoride which is contained in the liquid etchant so that a fluorine ion concentration is 50 g/l or less.

5. (original) A method for roughening a copper surface as defined in claim 2, wherein said at least one halide is a bromide which is contained in the liquid etchant so that a bromine ion concentration is 0.1 g/l or less.

6. (canceled).

7. (original) A method for roughening a copper surface as defined in claim 1, wherein said m in said chemical formulae representing said oxo acids is 2 or more.

8. (original) A method for roughening a copper surface as defined in claim 1, wherein said (m+n) in said chemical formulae representing said oxo acids is 4 or more.

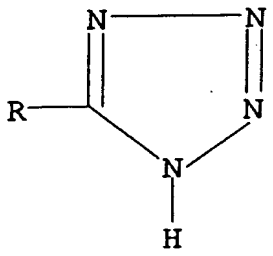
9. (currently amended) A method for roughening a copper surface, comprising the step of subjecting the copper surface to etching using a liquid etchant so that the copper surface is provided with acicular projections;

said liquid etchant including a main component containing at least one acid selected from the group consisting of oxo acids represented by one of the following chemical formulae:

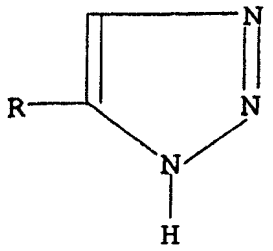
$$XO_m(OH)_n \text{ and } H_nXO_{(m+n)}$$

wherein X is a central atom, m is an integer of 0 or more, and n is an integer of 1 or more and derivatives thereof and at least one compound selected from the group consisting of peroxides and derivatives thereof; and an auxiliary component containing at least one azole selected from the group consisting of 1,2,3-— azoles which have three or more nitrogen atoms arranged in succession in a five-membered N-—heterocycle thereof and including a second azole.

10. (original) A method for roughening a copper surface as defined in claim 9, wherein the 1,2,3-azoles are represented by one of the following chemical formulae:



and



wherein R is selected from the group consisting of hydrogen, methyl, amino, carboxyl and mercapto radicals.

11. (original) A method for roughening a copper surface as defined in claim 9, wherein said auxiliary component contains at least one halide selected from the group consisting of chlorides, fluorides and bromides.

12. (original) A method for roughening a copper surface as defined in claim 11, wherein said at least one halide is a chloride which is contained in the liquid etchant so that a chlorine ion concentration is 50 mg/l or less.

13. (original) A method for roughening a copper surface as defined in claim 11, wherein said at least one halide is a fluoride which is contained in the liquid etchant so that a fluorine ion concentration is 50 g/l or less.

14. (original) A method for roughening a copper surface as defined in claim 11, wherein said at least one halide is a bromide which is contained in the liquid etchant so that a bromine ion concentration is 0.1 g/l or less.

15. (canceled).

16. (original) A method for roughening a copper surface as defined in claim 9, wherein said m in said chemical formulae representing said oxo acids is 2 or more.

17. (original) A method for roughening a copper surface as defined in claim 9, wherein said (m+n) in said chemical formulae representing said oxo acids is 4 or more.